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WORKING PAPER

OPERATION OF THE NEWLY SET-UP

CONSTRUCTION ADVISORY UNIT (CAU)

UNDER THE DIRECTORATE OF PRIMARY EDUCATION  
EDUCATION DEPARTMENT

NWFP

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By

NADIR ABBAS

USAID PEP PROJECT OFFICER

ISLAMABAD



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## OPERATION OF THE NEWLY SET-UP

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Introduction

1. The NWFP Primary Education Development (PED) Program's Steering Committee, comprising Secretaries of Education, Finance, Planning and Development (P&D), Communications and Works (C&W), and chaired by the Additional Chief Secretary, seeking to improve the management of construction and maintenance of the primary education facilities in the provincen, commissioned a study in November 1989. The Terms of Reference (TOR) for the study were framed and approved in 1990.
2. In November 1990, following the approved procedure for appointment of consultants, Messrs Engineering Associates (EA), Karachi, were selected and appointed to conduct the study. The firm completed teh management study and submitted its report in May 1991.
3. The firm recommended creation of a Directorate of Civil Works (DCW) under the Directorate of Primary Education. The DCW would have a skeletal staff on government pay-roll and, using private sector architect/engineering (A/E) firms as consultants for bulk of the work, take over the management of all primary education construction and maintenance from the Communications & Works (C&W) department including planning, designing, supervision, and monitoring. Eventually, it was recommended, DCW should take over all education construction, and then, it would be placed under the Secretary Education.
4. In November 1991, an *ad hoc* committee appointed by the Steering Committee for the purpose, reviewed and approved the report and further asked the firm to prepare the details of the proposed DCW: personnel, budget, jurisdiction, powers, rules of business, etc.
5. The firm submitted its second report in April 1992. The report reviewed, as mandated, the existing engineering cells in the Punjab and Sird Education Departments. It then proposed the details for the NWFP DCW including area jurisdiction and workload,

duties and responsibilities of the DCW officers, space and office requirements, method of execution of works, transfer of responsibilities from C&W to DCW, cost estimates, and amendment in the Education Department's Rules of Business.

6. According to the report, the DCW was to be staffed by a Grade-20 Director (Chief Engineer), one Grade-19 Additional Director (Superintending Engineer), three Grade-18 Deputy Directors (Executive Engineers), and about 37 other supporting administrative/clerical staff. For detailed planning, managing, supervising, overseeing, and monitoring construction and maintenance works, the DCW was to engage one or more private sector consultants.

7. In September 1992, the Steering Committee took up the ad hoc committee's recommendation on the report. It approved the recommendations in principle but decided to establish the DCW, at first, on a limited scale on pilot basis for three years, to be called Construction Advisory Unit (CAU). All functions of CAU were the same as the DCW except that the CAU was to be responsible for only three divisions (Peshawar, Malakand, and Hazara), to begin with, and if the experiment was successful, CAU was to become the full-fledged DCW. Furthermore, it was decided that all the CAU staff would be selected from the existing C&W staff and shifted to and placed under Primary Education Directorate. The committee also authorized the Education Department to work out and finalize the further operational details of CAU including budgeting and staffing.

8. The Education Department subsequently formed a committee comprising representatives from Finance, P&D, C&W, and USAID, and chaired by the Education Secretary for working out the details of CAU. The committee decided that, for the reduced work load during the pilot stage, CAU would have one Grade-19 Additional Director and one Grade-18 Deputy Director and 14 other supporting administrative and clerical staff. A corresponding budget for office space, equipment, furniture, and recurrent costs, was also approved. It was agreed that all developmental costs for establishment of the Unit would be funded out of the Personal Ledger Account (PLA) of the Director of Primary Education. It was also decided that C&W would provide a list of personnel to the Education Department from which the latter would make the final selection.

9. Subsequently, Education Department selected Mr. Arifullah Khan and Mr. Ilyas Masood for the positions of Additional Director and Deputy Director respectively from a list provided by the C&W. personnel were selected. This was later approved by the Steering

Committee which also decided that the selected personnel should immediate start work for CAU. Secretary C&W also agreed to simultaneously submit a summary to the Chief Minister in this regard.

10. In a meeting of the Steering Committee on May 12, 1993, the Additional Chief Secretary, who was in the chair, directed Education Department to submit working papers for identifying the required actions to enable the CAU to become fully operational.

### Recommendations

11. It is recommended that a notification be immediately issued amending the Education Department's Rules of Business, as recommended below, and approving the area of jurisdiction (Attachment - A), staff and budget (Attachment - B), duties, responsibilities, powers, and recruitment rules (Attachment - C), method of execution of works (Attachment - D) for CAU and procedures for transfer of works from C&W to CAU (Attachment - E), as recommended by Engineering Associates and as per the attachments with this paper.

12. Rules of Business: The report prepared by EA has recommended insertion of the following item in Schedule II of Rules of Business for the Education Department:

"11. Construction, equipment, maintenance and repairs of primary schools, primary portions of the middle schools and related primary education facilities."

13. The Additional Director be authorized to proceed with the procurement of short term architecture/engineering advisory services (a firm or an individual) as per the provincial rules for procurement of such services. The statement of work for the services are attached herewith as Attachment - F.

14. The Additional Director be authorized to proceed with the procurement of long term architecture/engineering services (a firm) as per the provincial rules for procurement of such services. The statement of work and budget for the services are attached herewith as Attachment - G.

Attachments: as stated.

## ATTACHMENTS

- A. Area Jurisdiction
- B. Staff and Budget
- C. Duties, Responsibilities, Powers, and Recruitment Rules
- D. Method of Execution of Works
- E. Transfer of Works from C&W to CAU
- F. Statement of Work for Engineering Advisor
- G. Scope of Long Term A/E Services

## AREA JURISDICTION

The jurisdiction of work for CAU is shown in the attached map and the table.

It is planned that the CAU will be expanded gradually to cover, first, all primary education construction in the entire province and, then, to all educational buildings in the province. The expansion of the CAU organization will also take place in a phased manner. The changes involved will be:

- (a) Expansion in number of various categories of personnel to cope with the additional work load.
- (b) Upgrading of the personnel in top echelon to control a larger organization.

// Eventually, the CAU will become a full-fledged Directorate of Civil Works with jurisdiction, and staffing, as per the Engineering Consultants' April 1992 report.

*Appal's  
on the  
3 year  
pilot phase -*

Table

**Approximate No. of Existing Schools  
in the CAU's Jurisdiction**

Division	District	No. of Existing Schools			Total
		Primary	Middle	Total	
Peshawar	Peshawar	378	48	426	1064
	Charsadda	303	36	339	
	Nowshera	262	37	299	
Hazara	Kohistan	201	2	203	1796
	Mansehra	859	89	498	
	Abbottabad	988	107	1095	
	Haripur	-	-	-	
Malakand	Malakand	235	20	255	1964
	Dir	641	59	700	
	Swat	814	88	902	
	Chitral	83	24	107	
	Bunair	-	-	-	

**Total**

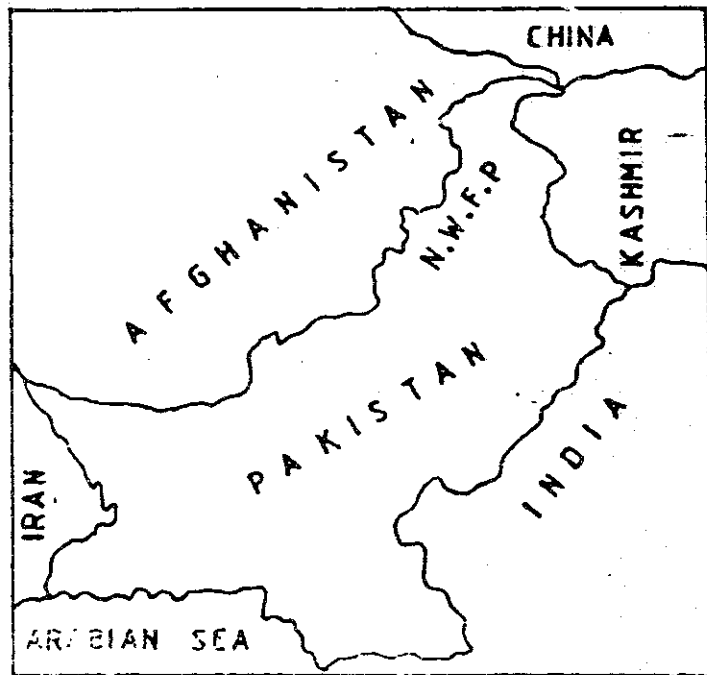
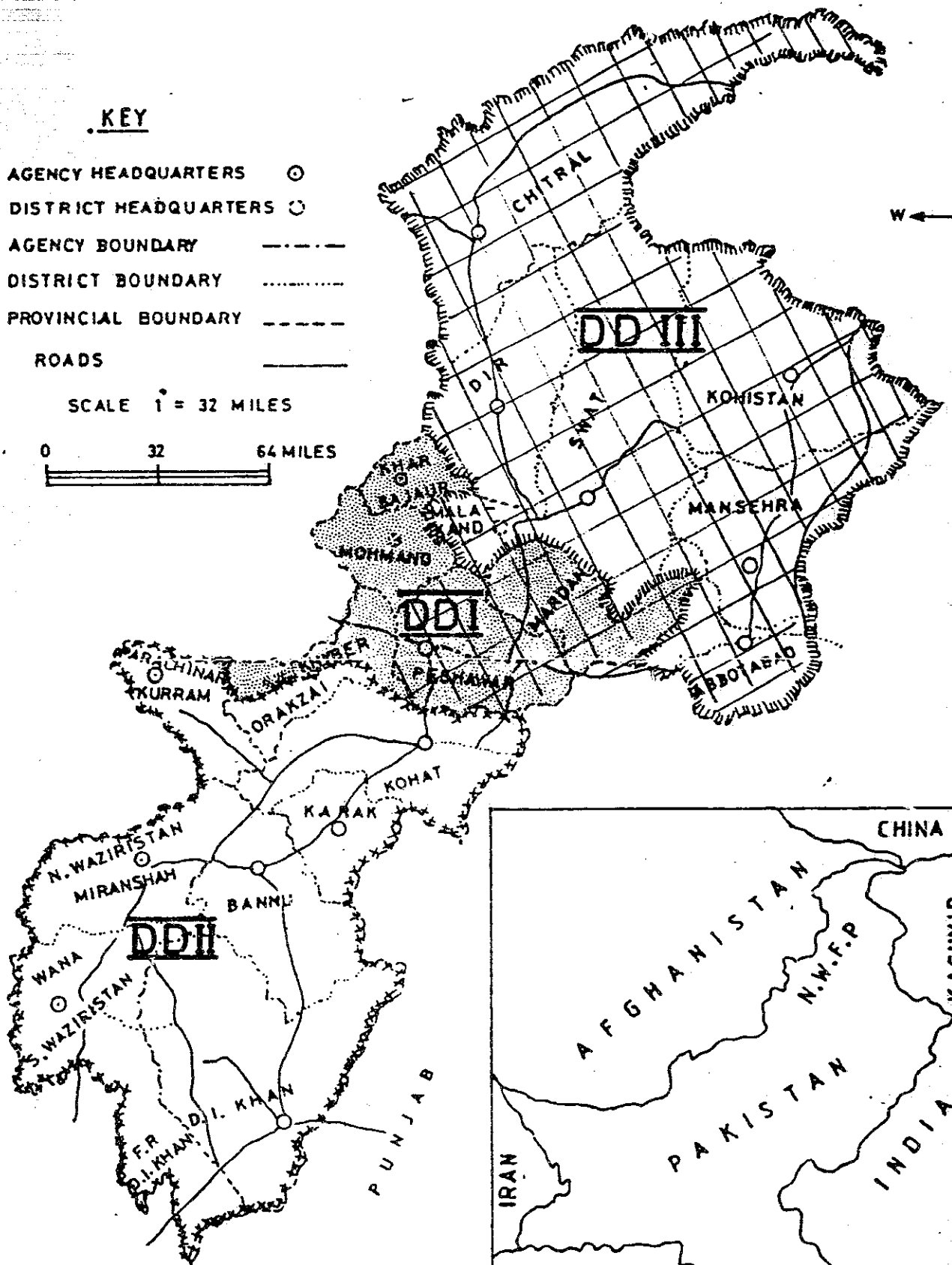
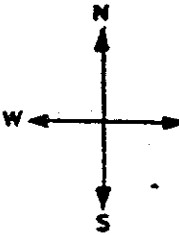
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## KEY

- AGENCY HEADQUARTERS ○
- DISTRICT HEADQUARTERS ○
- AGENCY BOUNDARY - - - - -
- DISTRICT BOUNDARY ······
- PROVINCIAL BOUNDARY - - - - -
- ROADS ————

SCALE 1" = 32 MILES

0 32 64 MILES



- DD I
- DD II
- DD III
- CAU

Fig-4



STAFF

S.No.	Posts	No. of Posts	Grade
1.	Additional Director	1	19
2.	Deputy Director	1	18
3.	Accountant/Cashier	1	15
4.	Steno/Computer Operators	2	15
5.	Office Assistant	1	11
6.	Accounts Clerk	1	9
7.	Drivers	2	4
8.	Naib Qasids	3	1
9.	Chowkidars	2	1
10.	Sweepers	1	1
11.	Mali	1	1
	Total	16	

S/No.	Posts	No. of Posts	BPS	Total Amount (Rs)
1.	Additional Director	1	19	115,794.00
2.	Deputy Director	1	18	94,038.00
3.	Accountant/Cashier	1	15	34,619.00
4.	Accounts Clerk	1	9	28,741.00
5.	Steno/Computer Operators	2	15	84,216.00
6.	Office Assistant	1	11	28,922.00
7.	Drivers	2	4	86,376.00
8.	N/Qasids	3	1	102,888.00
9.	Chowkidars	2	1	41,278.00
10.	Sweeper	1	1	21,881.00
11.	Mali	1	1	21,881.00
Total:				660,634.00

<u>S/No.</u>	<u>Items</u>	<u>Qty</u>	<u>Rate (Rs)</u>	<u>Total (Rs)</u>
1.	Toyota Diesel Jeeps	2	850,000	1,700,000
2.	Computer PCs with System	4	70,000	280,000
3.	Electric Typewriters	1	20,000	20,000
4.	Pocket Calculators	6	1,000	6,000
5.	Photocopy Machine	2	120,000	240,000
6.	A/C.	4	30,000	120,000
7.	Fax Machine	2	40,000	80,000
8.	Heaters	10	2,500	25,000
9.	Furniture as per details			
	Lump Sum		171,400	171,400
10.	Kitchen equipment, Crockery			
	Lump Sum		30,000	30,000
				2,672,400
	Contingencies @ 2%			53,448
			Total:	2,725,848

	RUPEES	
<u>RECURRING EXPENDITURE</u>	<u>PER MONTH</u>	<u>ANNUAL</u>
TA/DA for Officials and Staff	15,000	180,000
Telephones	20,000	240,000
Gas, Electricity, Water	6,000	72,000
Office Stationery	12,500	150,000
Developing, Printing	12,500	150,000
P O L		
2 Vehicles, 6 return trips per month 500 km each @ 8 km/Litr.	4,500	54,000
Maintenance of Vehicles		
2 Vehicles	6,000	72,000
Maintenance of Equipment	2,000	24,000
Postage/Telegrams	2,500	30,000
Sub-total:		972,000
Contingencies at the Rate of 2%		19,440
Total:		991,440

Office Rent		120,000
Capital Cost		2,725,848
Recurring Expenditure (Salaries)...	i	660,634
" " " "	...ii	<u>991,440</u>
Total:		4,497,922
Say:		4.498 Million

DUTIES, RESPONSIBILITIES, POWERS, AND RECRUITMENT RULES  
FOR THE OFFICIALS OF THE  
CONSTRUCTION ADVISORY UNIT

A. Duties and Responsibilities

The normal duties and functions of the officials of NWFP Government will be generally applicable to the CAU staff. Some specific duties, however, applicable to the engineering officers are indicated hereunder:

1. Additional Director of Works

The Additional Director of Works (ADW) shall be the head of the Construction Advisory Unit (CAU) and would be responsible for the efficient working of the Unit. He shall report to the Director, Primary Education and provide requisite technical advice to him concerning works assigned to his Unit. He shall ensure that all works are undertaken economically with workmanship and materials as per design, drawings and specifications. He shall supervise Deputy Directors and be administratively responsible for all the staff of his Unit and shall arrange all service matters of the staff in consultation with the Director Primary Education.

He shall correspond directly with other Departments and Organizations on all matters related to his work. He shall exercise all financial and miscellaneous powers assigned to him for the performance of his duties.

He shall keep a control of accounts of the Unit and give strict attention to the regulations concerning the disbursement of money, the custody of stores and the submission of accounts. He shall prepare annual budget for his Unit and plan its activities based on the budgetary allocations and needs of the works under his control.

He shall organize and supervise the works under taken either directly or through the Consultants with the assistance of his Deputies. He shall oversee the work of the Consultants, review the progress of works, prepare review reports and make necessary corrective measures to expedite progress and ensure quality of works. He shall undertake periodical inspections under specific program and spontaneous visits to the works of the Unit.

He shall keep a complete record of all the works undertaken by his Unit. He shall prepare terms of reference, invite and

scrutinize proposals of Consultants, invite tenders for execution of construction and maintenance works, conclude the contracts with the Consultants, award the works and monitor their progress. He shall work in close liaison with the concerned officials of the Education Department.

## 2. Deputy Director of Work

The Deputy Director of Works shall assist the ADW in the execution and management of all works. It shall be his duty to see that the works are expeditiously and economically carried out with good workmanship and materials of good quality in conformity with the contract requirement and specifications. He shall assist the personnel of the Consultants in carrying out their assignments.

It will be his responsibility to ensure that defects identified are rectified and the works undertaken are generally in accordance with the drawings, designs and specifications. He shall exercise financial and technical powers assigned to him. He shall inspect periodically or as required all the works under his jurisdiction. It shall be the responsibility of the Deputy Director of Works to ensure proper maintenance of all works in his charge through the appointment of Consultants.

He shall ensure that the works are carried out as per design and specifications in an economical manner with best workmanship and materials of specified quality. No work shall be commenced by him without the sanction of the competent authority and also he shall not make or permit any deviation from the approved design and materials in the course of execution without prior approval of the competent authority.

He shall submit monthly accounts of works directly undertaken by him on ADW's instructions to the ADW. He shall undertake all works and assignments entrusted to him by the ADW from time to time and ensure their satisfactory completion. He shall report regularly the progress of works undertaken in his jurisdiction to the Additional Director of Works. He shall invite tenders, quotations, and award the works falling within his specified financial powers. He shall work in close liaison with concerned officials of the Education Department.

## 3. Accountant

He shall be responsible for maintaining the accounts of the Unit both in respect of works and establishment. He shall conduct detailed checking of all works bills, claims and account for all receipts and payments and perform all other functions assigned to him in this respect.

He shall maintain complete accounts as required under the rules

and the required Accounts Returns shall be submitted to the concerned quarters by the prescribed dates. He shall prepare cheques for work expenditure after ensuring that works have been certified and no payment is made without technical scrutiny and approval of the Additional Director of Works.

He shall also prepare budget estimates of the Unit and keep a close watch on the expenditure. He shall be well versed with the financial rules and regulations of the Government and shall strictly follow these in the discharge of his duties.

B. Delegation of Powers The following delegation of powers under the Financial Rules and Power of Re-Appropriation Rules 1981 shall be exercised by the officials of the Unit:

1. Technical Sanctions

a. New Works:

i. Administrative Department: Full Powers  
(Secretary of Education)

Subject to the condition that excess over the amount for which the administrative approval has been accorded does not exceed 10 percent. In case it does exceed, fresh administrative approval will be required.

ii. Committee of Director Primary Education and  
Additional Director of Works: Full Powers

Subject to the condition that excess over the amount for which the administrative approval has been accorded does not exceed 10 percent. In case it does exceed, fresh administrative approval will be required.

iii. Additional Director of Works Up to Rs.2,500,000

Subject to the condition that excess over the amount for which the administrative approval has been accorded does not exceed 10 percent will be required.

iv. Deputy Director of Works Up to Rs.500,000

Subject to the condition that the excess over the amount for which the administrative approval has been accorded does not exceed 10 percent.

b. Ordinary and Special Repairs to Non Residential Buildings:

- i. Administrative Department Full Powers\*  
(Secretary of Education)
- ii. Committee of Director Primary Education and  
Additional Director of Works Full Powers\*
- iii. Additional Director of Works Up to Rs.1,000,000\*
- iv. Deputy Director of Works: Up to Rs.500,000\*

\* Subject to the furnishing of lists.

c. Ordinary and Special Repairs to Residential Buildings:

- i. Administrative Department Up to Rs.50,000\*  
(Secretary of Education)
- ii. Committee of Director Primary Up to Rs.50,000\*  
Education and Director of  
Works
- iii. Additional Director of Works Up to Rs.20,000\*
- iv. Deputy Director of Works Up to Rs.50,000\*

\* In case of each building subject to furnishing of lists.

2. Administrative Approval for Works/Development Schemes

- i. Administrative Department Up to Rs.5,000,000\*  
(In Sub-Committee)
- ii. Director of Works Up to Rs. 1,000,000\*  
(without Sub Committee)
- iii. Director of Works Up to Rs.700,000\*
- iv. Deputy Director =

\*Non-recurring.

### C. Recruitment Rules

The Unit shall be attached to the Directorate of Primary Education, GONWFP and shall follow all the relevant service rules as adopted by the GONWFP and are applicable to personnel of Directorate of Primary Education.

However, it is essential to have separate recruitment and appointment rules for the Unit which are described below for the key officials. For the support staff such as assistants, accountants, clerks, drivers, chowkidars and others, the normal Government rules for their recruitment and appointment shall be followed:

1. Name of Post

Additional Director of Works  
(Chief Engineer)

Minimum Qualifications

Degree in Civil engineering  
from a recognized university  
or institution.

Minimum Experience:

12 years professional experience with a reputed consulting engineering firm, contractor or a government organization in design/ construction/maintenance of buildings and related works. Relaxable to 8 years experience in case of master's degree in civil engineering from a recognized university or institution.

Method of Recruitment:

By initial appointment through Public Service Commission or by selection from amongst the Deputy Directors of Works or holders of equivalent posts in the CAU or by selection on merit from a list of nominees of C&W department.

2. Name of Post

Deputy Director of Works  
(Executive Engineer)

Minimum Qualifications

Degree in Civil engineering  
from a recognized university  
or institution.

Minimum Experience:

8 years professional experience with a reputed consulting engineering firm, contractor or a Govt. Organization in design/ construction/maintenance of buildings and related works. Relaxable to 5 years experience in case of Master's Degree in Civil engineering from a recognized university or institution.

Method of Recruitment:

By initial appointment through Public Service Commission or selection on merit from a list of nominees of C&W department.

The minimum qualifications, experience, method of recruitment for accountants, assistants, clerks, naib gasids, drivers, stenographers, computer operators (steno typists) and others shall be as per rules of the GONWFP except that these person shall be recruited by initial appointment for the new Unit or taken from the existing strength of the Education/C&W Departments.



## METHOD OF EXECUTION OF WORKS

A. The proposed organization shall utilize the services of private sector Architect/ Engineering (A/E) firms for planning, design, preparation of tender document, evaluation, construction and maintenance supervision of all primary education facilities. In addition they shall provide advisory services to the CAU. In this chapter the procedures for inducting the Consultants and undertaking the construction and maintenance works through consultants are given in detail. This employment shall be for a period of 1 to 2 years for consultancy work as it arises in this period.

### B. Method of Inducting Consultants

Applications for pre-qualification of consultants shall be visited through advertisements in national newspapers of the capital and all the provincial capital cities indicating the nature and content of work.

Applications shall be evaluated for experience, particularly in NWFP, organization, personnel, etc. Selected consultants shall be invited to submit their proposals for planning & execution of specific works at indicated locations. Separate technical & financial proposals be invited.

Technical proposals shall be evaluated with respect to methodology, technology, CV's of the personnel assigned/proposed for the project, and perception and proposed solutions of expected problems etc.

The financial proposals of three firms with the best technical proposals shall then be opened and cost negotiations be carried out with the firm with the best technical proposal to bring the price within the competitive range.

If negotiations fail, the next best technically evaluated proposal may be taken up.

The scope of work for consultants agreement shall be specified as per the ADP and other known development (for instance foreign aided) projects, but may be kept open-ended (indefinite quantity, time-based) so as to include any other work of PED.

The consultants appointed for specified period shall then proceed to arrange execution of works as illustrated below through construction contracts or any other method approved by Directors

C. New Construction

These works, after administrative approval, shall be entrusted to private sector Consultants, for planning, architectural and engineering design, contracting, monitoring of work execution and progress, and verifying contractors payment etc. These works contracts are to be concluded by the ADW with the assistance of consultants on item rate basis, which is the normal standard method. The consultants remain responsible till the facilities are taken over and start functioning, and the construction contracts are finalized.

D. Maintenance and Repairs Work

The nature of work in this category varies considerably and may be classified as: petty repairs, annual maintenance work, and special repair/reconstruction. The methods and procedure for each class of works are different as described below:

1. Petty Repairs

This repair is for minor items like replacement of broken glass panes or repairs like water tap leakage, or replacement of electric bulbs and minor electric faults etc. Such repairs shall be arranged by the Head Master or Teacher In-Charge of the school through a technician of the trade involved and paid for on individual job basis. The head of the school is authorized by the Education Department to incur such expenditure under the supervision of SDEO concerned. This system will continue as it is. This is to be done for all of the schools. A system be developed with the help of consultants to verify the work done on the basis of random sampling or detailed check.

2. Annual Maintenance

The annual maintenance repair includes the decorative work e.g. white washing, painting and patch repairs of plaster or floor or roof etc. This work may be contracted for by CAU using the consultant.

3. Special Repair

The special repair requirements shall be included in the physical conditions' survey and data for this item shall also be available in the NWFP EMIS.

The arrangement to conclude maintenance work contracts for large or small packages of schools, will be possible based on the data. Needless to say the data will not remain static, but updating will be done on conclusion of each contract and also periodically

to include new schools and on periodic inspection report.

There are two considerations for decision on each contract size:

a. On the basis of a manageable area

For example each district or tahsil could be covered in one contract. Or one or two districts depending on a manageable number of schools.

b. Nature of maintenance

For example separated contracts for could be given for annual maintenance and special repairs. Though, a comprehensive contract for both items of work may be more practical and easier to manage from supervision point of view.

Thus, the primary consideration for size of each package or contract is the number of schools.

The nature of contracts to be concluded could be:

- Measurement Contract or Unit Rate Contract

Such contracts need little effort at time of conclusion of contracts but a large effort and engineering personnel is required on monitoring and billing etc. during and after the execution of work.

- Lump Sum contract

Lump Sum contracts need a large effort at the time of conclusion of contract, needing detailed quantities and nearly perfect drawings where required, but limited effort is needed for checking and billing etc at the completion of work.

Considering our schools scenario, the quantities and all details, building wise, will be available from the data bank and may be easily indicated in the tender issued to the contractor. Also since our main consideration is to keep the engineering personnel at the minimum possible level, the obvious choice in these conditions is, the lump sum contracts, where the contractor quotes a total lump sum cost for carrying out the work of all quantities of work given in the tender. This is different to the "item rate contract" where rates of each item are given by the tenderer. Our recommendation is to adopt the lump sum contract for repair work. In this system the contracting and supervision process will be done by the consultant.

The lump sum contracting procedure has been further elaborated later in this chapter.

#### F. Tendering Process

The tender shall be issued by the Director or the officer in whose financial powers the tender cost lies. It is also suggested that the quantities from the EMIS may be priced on any standard schedule of rate. These rates may be upgraded periodically on an appropriate officially approved percentage increase and applied by the computer across the board.

Thus at any time the standard current price of items of repair will be available, to fix responsibilities and to be kept as Government estimate.

The tender form may be the same as used by C&W Department.

The general conditions of contract may also be adapted from any of these organizations or the consultants can be given the task of drafting them.

Certain amendments will have to be done in these forms and condition to make the Director of Education and Unit as parties to the Contract.

The system of pre-qualification of tenderers may be adapted to screen the contractors for all tenders or an approved list of contractors may be kept by CAU. This will avoid many complications later on.

#### G. Supervision by Consultants

As stated earlier, as a result of the work being supervised by the Consultants, the contracting process and detailed working at the sites for maintenance works will be considerably streamlined.

This system has the advantage of a drastic reduction in the staffing of the total organization of CAU. This saving could go towards the payment of the Consultancy services. The net most important result, however is the likely overall improvement in efficiency in execution process and possibility of savings in time and quality. This system of working requires the induction of Architectural/Engineering Consultants, to take over the following functions for maintenance works:-

##### Planning

This will be done by Consultants with the approval of CAU and will include:

(a) Thorough study of the computerized information regarding building inventory and the nature and extent of maintenance repair required in each building. The data bank containing this information will be available with the CAU.

(b) Making a 5 year plan for this maintenance and special repair works, based on engineering priorities to ensure safety of buildings. Regional priorities may be fixed by Education Department, which will also be observed in the 5 year plan.

(c) Make annual programme for the current year, for actual execution, within the five year plan framework.

(d) Plan work packages for each contract within the framework of one or two districts as approved by Unit of civil Works and in conformity with the approved 5 year plan and annual plan as far as the allocation of resources permit.

### Designing

Any architectural or engineering design required for any of the maintenance and special repair works, shall be done and drawing made for inclusion with the tender after approval from CAU.

### Conclusion of Contracts

The procedure for conclusion of contracts shall be as under:

(a) Conclusion of contracts shall be on lump sum basis. The tender documents is to contain the quantities of maintenance and special repair works of each buildings separately, and will comprise of a group of schools in each tender as decided by CAU.

(b) Each tender will be submitted to CAU before issue by the consultant. CAU will fix reserve price based on the computerized costs obtained from the data bank and keep it as a confidential information.

(c) The Consultants shall frame the appropriate specification for building materials and workmanship, and get these approved from CAU. These will be attached with all tenders issued for maintenance and repair work. The general conditions of contracts, appropriate for this maintenance work shall also be framed and got approved from the CAU for attachment with tenders.

(d) The Consultants will prequalify the contractors after advertising in the press and recommend to CAU the issue of tender to these contractors. The tenders shall then be issued as approved. The contractors shall submit a lump sum price for the works indicated in the tender.

(e) Tender evaluation and recommendations for acceptance to be submitted to CAU, who will issue the letter of intent to the contractor for the lump sum cost tendered by the contracts.

(f) For payment of interim bills the Consultant shall assess the percentage of work done in each building and work out

the total payment from the reserve cost worked out at the time of issue of tender and apply the ratio of reserved cost and tendered cost on this total to determine the amount payable.

### Supervision

The procedure for construction supervision by the consultants shall be as under:

(a) Detailed supervision of work shall be done by the Consultant, based on the number of supervising personnel to be deployed in the field by the Consultant as approved by the CAU, to ensure completion of work within the time specified in the tender.

(b) Monthly progress of work in hand shall be issued by the consultant covering all aspects of works and its progress, with the comments of consultants on the overall performance of contractor.

(c) The material used by the contractor and quality of workmanship shall be ensured by the consultant to be in accordance with the specification indicated in the contract.

(d) Checking of bills and certification of works shall be done by the Consultant to enable CAU to make payments to the contracts whether interim or final.

(e) Consultants shall attend all meeting as required by CAU, and give presentations to CAU or Education Department as required by CAU.

(f) The payment for the consultancy services rendered by the Consultant shall be made by CAU as per provision of the Consultancy contracts.

The Consultants shall supervise/monitor the contracts as per the approved general conditions of contract. They shall deal effectively with any claims of contractor and get these finalized in consultation with CAU. The consultants shall attend any arbitration proceedings and represents the CAU case regarding the contracts.

The works shall be reported upon by the Consultants on completion and appropriate notices be issued if required, before completion of the maintenance period as per the contract conditions. The Consultants shall attend to any other business related to the works, required for completion of these Primary Education facilities or as desired by Director of Civil Works.

## TRANSFER OF PRIMARY EDUCATION WORKS FROM C&W DEPARTMENT TO THE CONSTRUCTION ADVISORY UNIT

The process of transfer of responsibility for execution of Primary Education Works (Development and Maintenance/Repair) will be different for different stages of completion of works, for example:

(1) Maintenance and Repair works in hand by C&W Department through Departmental labor: May be handed over straight away, by recording the present stage of work.

(2) Maintenance and Repair work being done under a current contract of C&W: Need to be completed under the contract, and the completed building be finally handed over to CAU. C&W may curtail the works, if possible without contractual complications.

(3) Maintenance and Repair contract completed physically, but bills not finalized by C&W: Finalization of bills may be done by C&W while the completed works be handed over to CAU. For such work rectification of defects on check list, settlement of claims, notice of any defects on completion of maintenance period, and arbitration if any, shall still remain the responsibility of C&W.

(4) Original works physically completed but contractor's bill not finalized by C&W: Finalization of bills may be done by C&W while the completed works be handed over to CAU. For such work rectification of defects on check list, settlement of claims, notice of any defects on completion of maintenance period, and arbitration if any, shall still remain the responsibility of C&W.

(5) Original work under construction on current contracts of C&W: Need to be completed under the contract, and the completed building be finally handed over to CAU. C&W may curtail the works, if possible without contractual complications.

(6) Work for which contract action is in hand with C&W: Documents for works for which contracts procedure is in hand and tenders for which acceptance has not been issued by C&W shall be formally handed over to CAU for further contractual action.

(7) Work for which contract concluded by C&W but work not yet commenced: Works for which letter of intent issued but work not commenced at site may be suspended and discussion between CAU, C&W and contractor may be had to arrive at a workable and agreed solution, which may require amendments in the contract.

(8) Work for which tenders called for by C&W but letter of intent not issued: Documents for works for which contracts procedure is in hand and tenders for which acceptance has not been issued by C&W shall be formally handed over to CAU for further contractual action.

In case of any contractual complication for any of the above categories, CAU and C&W may discuss the problem and take any suitable action.

In all cases of handing over of works and documents, a written handing over and taking over document shall be made and signed, indicating and listing in detail all the items handed over, and reservations if any, shall be recorded by the taking over officer of CAU, on the handing over document itself.

A list of all works of the eight categories listed above, and any other coming to light, shall be made and signed by C&W and handed over to CAU, so as to indicate the total list for all categories of works, in hand with C&W for Director of Primary Education, NWFP.

A full account of the current allocations placed with C&W by Department of Education/Director Primary Education, for both maintenance and development works shall be provided by C&W.

This process of taking over of works and documents from C&W may be made the responsibility of a Committee of not more than three persons from Director of Education. Persons well versed in works procedures and works accounts need to be placed on this Committee, as many complications are likely to arise, which shall be settled in accordance with various Govt. rules and codes.



## STATEMENT OF WORK FOR ENGINEERING ADVISOR

### A. OBJECTIVE

To serve as the Chief Engineering Advisor in CAU to provide technical and management assistance on the construction of the buildings to primary education facilities in the province.

### B. SCOPE OF WORK

Under the supervision of the Additional Director Works (ADW) the incumbent will:

- coordinate with the Office of Director of Primary Education (DPE) to examine, advise and assist on all design and implementation aspects of building construction;
- assist in monitoring construction activities, consultants and contractors compliance with project agreements, grant funded contracts and implementation schedules; report problems and/or deviations observed and recommend GONWFP, contractor action required to resolve or rectify deviations;
- review consultants' requests for ADW approval of designs, specifications, construction drawings, bid evaluations and award documents, and disbursement documents and vouchers for conformity with grant agreements, contracts, government regulations and good engineering practice. Recommend approval/disapproval and/or changes;
- review and prepare documentation required to procure equipment and materials, and professional technical and construction services;
- conduct field trips as required to observe quality of construction, verify progress observed with progress reported, and to verify compliance with contract terms, plans and specifications and GONWFP disbursement requirements. Make on-site recommendations as required and prepare inspection reports with comments, recommendations, and conclusions;
- through personal knowledge of local customs, norms, aspirations, capacities, and through contacts with appropriate GONWFP officials, prepare/provide engineering input for new project design, including, inter alia, engineering analyses, evaluations, cost estimates, technical design criteria, implementation plans and schedules, and manpower, equipment and training requirements;

- prepare engineering components of grant and loan agreements, implementation letters, and their related documents;
- represent the DPE/ADW in bid openings, evaluation and award meetings, and project review meetings.

#### C. ABILITY AND SKILL

- Skill in communicating with others; clarity and conciseness of verbal expression and persuasiveness in obtaining the cooperation of those whose efforts he/she must integrate and coordinate.
- Ability to analyze, interpret and evaluate engineering and construction problems.
- Ability to adapt and apply professional engineering principles, methods and techniques to resolve problems encountered.
- Ability to keep abreast of changes in engineering and construction technology and to apply it in dealing with engineering and construction activities and responsibilities.

#### D. KNOWLEDGE

Professional knowledge of civil engineering and construction principles, theories, concepts and practices as well as the ability to apply standard engineering practices, methods and techniques to perform the engineering work in two or more fields (buildings, irrigation, etc.), independently with little supervision or guidance.

#### E. POSITION ELEMENTS

- Supervision received: The incumbent normally works under the general supervision of ADW. Completed work is reviewed to ensure effectiveness in completing assignments and in providing technical advice to ADW/GONWFP and consultants. Supervisory advice is usually provided to deal with unusual and/or especially complicated problems and circumstances.
- Guidelines: Guidelines include government regulations, policy directives, established office procedures, standard specifications, technical manuals and bulletins, manufacturer's catalogues, and general accepted engineering and construction practices. The incumbent uses and interprets these guidelines to solve a variety of administrative and technical problems.
- Exercise of Judgement: Independent judgement is required to resolve a variety of problems. The guidelines are seldom

adequate for solving complex and unusual administrative, management and technical problems that the incumbent faces occasionally. These require the incumbent to exercise professional judgement to determine whether or not to depart from established methods and procedures and when to seek supervisory advice and/or approval.

F. AUTHORITY TO MAKE COMMITMENTS

The incumbent is only responsible for planning and carrying out activities assigned and for providing expert advice to the ADW/DPE with no authority to make financial commitments. Most decisions, recommendations and findings are to be technically sound and reviewed by the incumbent's supervisor with respect to their conformity with established policies, guidelines and procedures.

G. NATURE, LEVEL AND PURPOSES OF CONTACTS

Contacts are made with GONWFP Officials, and consultants and other engineers to obtain or furnish information, secure cooperation, provide advice and consultation and achieve desired actions and acceptance of recommendations. Contacts with GONWFP Officials will generally be with Education Development Officials and engineers but also require meetings with top ranking officials of the Provincial and Federal Governments and autonomous entities.

H. SUPERVISION EXERCISED

The incumbent indirectly supervises the work of GONWFP contractors to ensure that their work is carried out in strict compliance with contract requirements.

ESTIMATED SCHEDULE

Services are required on a continuous basis through a contract renewable every last year.

LONG TERM ARCHITECT/ENGINEERING (A/E) SERVICESSCOPE OF SERVICES

1. Establishing a Project Office at Peshawar to carry out planning, design, documentation, coordination and monitoring the project work and field offices, one in each of the 3 CAU Divisions to carry out supervision of construction.
2. Review/revision of a pro-forma (Questionnaire) for, and subsequently directing engineering assessment to collect information about the physical conditions of the existing primary education facilities.
3. Development, review, and revision of new/improved criteria for construction site evaluation, design, and construction of new schools.
4. Review and, if necessary, revision of existing drawings and other construction documents/new drawings and documents for establishing new schools.
5. Developing implementation plan and schedule for construction for repairs and rehabilitation of schools in each CAU district, including necessary drawings and documents.
6. Reviewing tenders and advising on contract awards.
7. Monitoring progress and quality of construction of construction contracts and maintenance works by making supervision visits to the construction sites.
8. Certifying completion of construction stages and reviewing and advising ADW on the acceptability of invoices submitted by the construction contractors for payment.
9. If required by ADW, reviewing the organization of ADW (staffing, transport, equipment, requirements, training etc.) and recommending changes if necessary.
10. If required by ADW, to plan, design, prepare contract documents, evaluate tenders, and supervise construction and maintenance of buildings/facilities not covered by the above statement of work. For this purpose, rates and charges available in the contract shall be adopted and, where such rates and charges are not available, appropriate rates and charges shall be mutually negotiated and agreed upon.